Canadian Institutes of Health Research

2009-2010 Estimates

Part III - Report on Plans and Priorities

Leona Aglukkaq Minister of Health

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Minister's Message:



It is my pleasure to present to my parliamentary colleagues, and all Canadians, the Canadian Institutes of Health Research's (CIHR's) Report on Plans and Priorities for the fiscal year 2009-2010.

As an important member of the Government of Canada's Health Portfolio, CIHR supports nearly 12,000 health researchers and trainees in universities, teaching hospitals and other health organizations and research centres across Canada. This support is critical to the continued delivery of innovative health research. As a result of this work, CIHR will play a key role in helping Canada achieve the objectives of the S&T Strategy.

Health research plays a pivotal role in improving health and saving lives. It provides key evidence about the effectiveness of current treatments and health-care practices, information critical to optimize Canada's health-care system.

Health research is producing insights and discoveries that will provide the foundation for breakthrough drugs and strategies for tackling chronic illnesses such as diabetes and heart disease.

For example, in 2008, CIHR-supported researcher Dr. Tony Lam of the Toronto General Hospital Research Institute reported his discovery of a communications channel between the gut, the brain and the liver. When this channel is activated, the body is able to lower its blood sugar. But, in experiments with animals, just three days of a high-fat diet was enough to shut down the channel. The discovery creates the possibility of a new target for diabetes treatments.

Increasingly, research is also helping Canada to address some of our most pressing health issues in the North. For example, through the support from CIHR, The Nasivvik Centre based at l'Université Laval supports innovative training and research on Inuit health. This Centre is one several that are part of a network of centres of excellence set-up across the country to address Aboriginal health research and training.

Investments in research also help build Canada's international competitiveness and economic well-being. Canada, for example, has achieved world-wide recognition for its expertise in neurosciences research. To build on this expertise, CIHR recently signed an international cooperation agreement with the Fonds de la recherche en santé du Québec (FRSQ) and the Institut national de la santé et de la recherche médicale (Inserm) in France to fund research on the diagnosis, treatment and management of patients with Alzheimer's disease.

I applaud the work that CIHR is doing on behalf of Canadians.

Leona Aglukkaq, P.C., M.P Minister of Health

Section I - Departmental Overview

Raison d'être

CIHR is the Government of Canada's health research funding agency. It was created in June 2000 by the CIHR Act (Bill C-13) with a mandate "to excel, according to internationally accepted standards of scientific excellence, in the creation of new knowledge and its translation into improved health for Canadians, more effective health services and products and a strengthened Canadian health care system".

CIHR was designed to respond to evolving needs for health research, and this is reflected in its legislation, which gives it a mandate very different from than that of its predecessor, the Medical Research Council of Canada, thereby transforming health research in Canada by:

- funding more research on targeted priority areas, and not just "open" basic biomedical research;
- placing a greater emphasis on the strength of the research community by building research capacity in under-developed areas and training the next generation of health researchers; and
- focusing on knowledge translation which facilitates the application of the results of research and its transformation into new policies, practices, procedures, products and services.

CIHR's legislation authorizes the creation of institutes and thirteen have been established. These institutes are not "bricks-and-mortar" buildings but communities of experts. In its topic area, each of CIHR's 13 Institutes supports a broad spectrum of research: biomedical, clinical, health services and systems, and population and public health. Institutes form national research networks linking researchers, funders and knowledge users across Canada to work on priority areas. CIHR's innovative structure has been recognized around the world as a global best practice for supporting a problem-based, multidisciplinary and collaborative approach to health research.

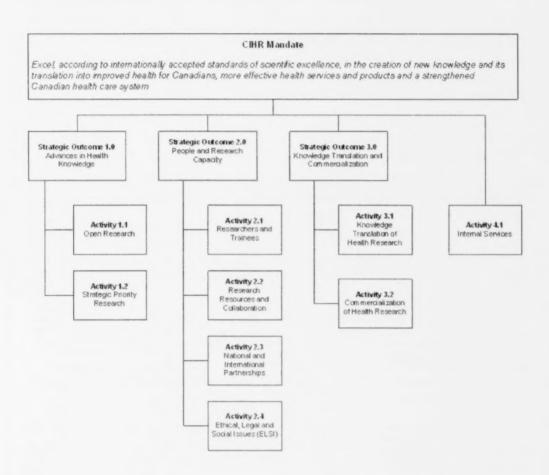
CIHR reports through the Minister of Health and, as such, plays a key role in the Health Portfolio, which is the focal point for the Government of Canada's health related activities. As Canada's health research funding agency, CIHR makes an essential contribution to the Minister of Health's overall responsibilities by funding the research and knowledge translation needed to inform the evolution of Canadian health policy and regulation. This is achieved through an extensive and growing set of linkages with Health Canada and the Public Health Agency of Canada, providing decision-makers with access to high quality and timely health research knowledge.

CIHR works closely with NSERC and SSHRC, the two granting Councils of the Industry portfolio, to share information and co-ordinate their efforts, harmonize practices, avoid duplication and give a consistent message from the government of Canada. The three Councils also try to make it easier for researchers and others to communicate with them, by providing single-window access whenever possible.

Strategic Outcomes and Program Activity Architecture (PAA)

CIHR's Departmental Report Program Activity Architecture (PAA), as approved by Treasury Board, is shown in Figure 1 below. The PAA consists of three Strategic Outcomes and the key program activities that support CIHR's Strategic Outcomes. The performance information presented in Section II is organized according to this PAA structure.

Figure 1: CIHR's Program Activity Architecture (PAA)



Planning Summary

Financial Resources (in millions)

2009–10	2010–11	2011–12
\$ 980.3	\$ 986.7	\$ 973.7

Note: Planned spending is comprised of approved reference levels and adjustments, where known or reasonably anticipated, such as amounts expected to be received in Supplementary Estimates and pending policy and Treasury Board approvals.

Human Resources (Full-Time Equivalent—FTE)

2009–10	2010–11	2011–12
410	410	410

Summary Table:

Performance Indi	cators	Targets				
 Canada's rank in the research expenditure 	a season morrow man	Maintain o	r increase inter	national ranking	in health research expenditures	
 Changes in health practices, programs or policies informed by CIHR-funded research, improvements in service delivery or health informed by CIHR-funded research. 		Anecdotal evidence of changes in health practices, programs, policies, health service delivery, or health due to the work of CIHR funded researchers				
 Research or research agendas informed by CIHR-funded research in Canada or internationally. Canada's rank in health research 		Maintain or increase # of partnered funding initiatives in Canada and internationally Maintain or increase international ranking in health research publications				
publications and patents.		and paten	pending (in	Millions)	Alignment to	
* Program Activity	Spending 2008–09 (in millions)	2009–10	2010–11	2011–12	Government of Canada Outcomes	
1.1 Open Research	\$ 470.6	\$ 455.8	\$ 460.2	\$ 460.2	An Innovative and Knowledge- Based Economy	
1.2 Strategic Priority Research \$ 146.9		\$ 135.8	\$ 139.1	\$ 131.7	An Innovative and Knowledge- Based Economy	
Total Planned Spending for Outcome #1						

Performance Indi	cators	Targets			
Number and types of PhD graduates in Canada by year compared to other countries Percentage of PhD graduates in Canada planning postdoctoral fellowship, research associateship or occupation in health/life sciences Number and fields of investigators funded. Rating by researchers as to adequacy of resources available for research (infrastructure, resources, hardware, software, people).		Maintain or increase international ranking Maintain or increase % planning fellowship or associateship (60%) or in an occupation related to health (11%) Maintain number and diversity (by Institute) of investigators funded 70% or more of researchers rate resources adequate			
	Forecast	Planned S	pending (in	millions)	Alignment to
* Program Activity	Spending 2008–09 (in Millions)	2009–10	2010–11	2011–12	Government of Canada Outcomes
2.1 Researchers and Trainees	\$ 198.4	\$ 214.9	\$ 218.0	\$ 212.5	An Innovative and Knowledge Based Economy
2.2 Research Resources and Collaboration	\$ 52.1	\$ 49.5	\$ 49.5	\$ 49.5	Healthy Canadians
2.3 National and International Partnerships	\$ 25.4	\$ 24.7	\$ 24.7	\$ 24.7	Healthy Canadians
2.4 Ethical, Legal and Social Issues	\$ 3.0	\$ 2.8	\$ 2.8	\$ 2.8	Healthy Canadians
Total Plan	ned Spending for Outcome #2	\$ 291.9	\$ 295.0	\$ 289.5	
Strategic Outcom	e 3: Knowledge Tr	anslation and	Commerci	alization	
Performance Indi	cators	Targets			
policies informed I research, improve delivery or health i funded research. Commercial activi companies and er as a result of CIHI Changes in the he	ments in service informed by CIHR- ty – products (IP), inployment generated	Anecdotal oresearchers	ice delivery or I evidence of cor s	nealth due to wi	practices, programs, policies, ork of CIHR funded researchers y due to work of CIHR funded related to quality of life
ூ Program	Forecast Spending	Planned S	Planned Spending (in millions)		Alignment to Government
Activity	(in millions)	2009–10	2010–11	2011–12	of Canada Outcomes
3.1 Knowledge Translation into Health Research	\$ 43.5	\$ 44.1	\$ 44.1	\$ 44.1	Healthy Canadians
3.2 Commercialization of Health Research	\$ 33.7	\$ 32.0	\$ 27.6	\$ 27.6	An Innovative and Knowledge Based Economy
Total Plan	ned Spending for Outcome #3	\$ 76.1	\$ 71.7	\$ 71.7	

Internal Service	s				
Program Activity	Forecast Spending 2008–09 (in millions)	Planned Spending (in millions)			Alignment to
		2009–10	2010–11	2011–12	Government of Canada Outcome
Internal Services	\$ 0.0	\$ 20.7	\$ 20.7	\$ 20.6	An Innovative and Knowledge Based Economy
Total Planned Spending for Internal Services		\$ 20.7	\$ 20.7	\$ 20.6	
Total Planned Spending		\$ 980.3	\$ 986.7	\$ 973.7	

<u>Note</u>: Effective 2009-10, federal government agencies and departments are required for the first time to list in their Estimates planned spending for Internal Services. As such, forecast spending in 2008-09 is NIL given these costs are not being tracked separately in the Public Accounts but rather are distributed across the Program Activities supporting each of CIHR's three Strategic Outcomes.

Note: Internal Services do not include expenditures in support of CIHR's operations that can be directly allocated to any of CIHR's three strategic outcomes.

Contribution of Priorities to Strategic Outcomes

In 2003, CIHR developed its first strategic plan - Blueprint - to guide the newly created organization with future strategic directions. CIHR's Governing Council consulted numerous individuals and organizations, with roundtable meetings and individuals providing direct feedback through a web-survey. The second iteration of CIHR's five-year strategic plan will be issued in 2009. A similarly diligent consultation process will be the foundation of the second iteration. This second strategic plan will set out a high-level vision, strategic directions and objectives, as well as an evaluation framework.

Operational Priorities	Туре	Links to Strategic Outcome(s)	Description
Strategic Direction #1 Invest in world- class excellence	On- going	Advances in Health Knowledge and People and Research Capacity	Research excellence is one of the benchmarks that will allow Canada to sustain its place in today's knowledge-based economy. To effectively do so, CIHR will sustair its health research foundation, enhance its standards of excellence and continue to foster a culture of ethical research.
Strategic Direction #2 Work with partners to translate knowledge into health and economic impacts	On- going	Knowledge Translation and Commercialization	CIHR will engage in partnerships that maximize the collective impact of knowledge creation to improve the health of Canadians and our health care system by the introduction of new health products and services. CIHR's efforts will emphasize knowledge translation, innovation and commercialization.
Strategic Direction #3 Set health research priorities	On- going	Advances in Health Knowledge	Canada must set priorities that capitalize on its strengths, reflect the priorities of the Government of Canada, respond to Canadian health and health system challenges, and help it contribute to international collaboration efforts.
Strategic Direction #4 Capture results	On- going	People and Research Capacity AND Knowledge Translation and Commercialization	CIHR has to improve documentation and communication of the results of its grant funding.

CIHR strives continually to strengthen its operations and programming while fostering a dedicated, well-informed workforce. The organization's leadership, responsible management, continuous improvement practices and high-quality work environment demonstrate an on-going commitment to organizational excellence. Moreover, CIHR has

consistently ensured that the cost of its operations are at or below 6% of its total appropriations thus ensuring the vast bulk of its funding goes directly to support world-class health research and researchers.

Management Priorities	Туре	Links to Strategic Outcome(s)	Description
Improve Program Delivery	On- going	All	This priority focuses on taking a holistic and integrated view of how CIHR delivers and manages programs across the organization with the aim of improving client service, increasing efficiency and effectiveness and reducing complexity while still ensuring transparency and accountability of program delivery. Two corporate initiatives are underway to improve standard operating procedures and peer review processes.
Strengthen ability to demonstrate the impact of health research	On- going	All	This priority focuses on establishing the infrastructure and organizational capacity to support the dissemination and application of health research knowledge and to improve the ability to demonstrate the impact of health research. Three corporate initiatives are underway to establish a partnership strategy, develop a knowledge-to-action map and commence implementation of an end-of-grant reporting process for funded researchers.
Improve information for management decision making	On- going	Internal Services	This priority will focuses on establishing integrated systems, processes and tools to ensure managers have available the management information required to make effective decisions. In 2009-2010 work will continue on documenting CIHR key business processes including the decision-making accountability, information requirements, risks and fundamental controls associated with each process.
Foster a motivated, committed and productive workforce	On- going	Internal Services	This priority area focuses on implementing the CIHR Human Resource Strategy with additional emphasis on vacancy management, integrated planning and leadership development.

Risk Analysis

CIHR continuously assesses opportunities, challenges and risks at three levels: strategic, programmatic and corporate. The major risks facing CIHR, as identified by the organization are as follows:

Research takes time and a sustained investment. A large portion of CIHR's budget is committed to grants and awards that extend over three to five years. CIHR is continually challenged by the need to provide this longer term funding while maintaining its capacity

to fund new projects. To meet this challenge, CIHR has introduced investment modeling to better forecast the future impacts of funding decisions and the concept of "steady-state" dynamics to ensure relative stability in the number of applications funded and success rates, over time.

Finding the appropriate balance between strategic (i.e. targeted) and investigator-initiated research is critical to success in health research. The balance varies from one field of health to another so that no single formula exists. CIHR's Governing Council approves CIHR's budget including the strategic allocation of grant funding to its various programs. A single management committee, chaired by the President of CIHR, reviews the results of the grants and awards competitions, to ensure scientific excellence and coherence with Governing Council direction. Together these measures help ensure that CIHR achieves the appropriate balance.

There is a risk that CIHR may not be able to fulfill its knowledge translation mandate, which could result in the inability to demonstrate impact, and a lost opportunity to transform the results of the new knowledge created by CIHR funding into new health and health care practices, products or services for the benefit of Canadians.

This risk is being mitigated in two ways. The first is the establishment and planned expansion of knowledge translation programs that encourage researchers to synthesize and disseminate their results and work directly with knowledge users to find solutions. The second is the establishment of the infrastructure within CIHR to act as a convenor and to promote the synthesis and dissemination of specific research results.

The current level of operating funding limits CIHR's ability to implement some of its planned business transformation initiatives including the management priorities described above. This could result in an inability to attract and retain staff with the right level of skills and experience or delays in the development of processes, information and tools to support effective management and decision making. To mitigate this risk CIHR has implemented an integrated operational planning process which requires managers to plan activities and identify resource requirements or issues on an annual basis and a process to review progress against these plans on a quarterly basis. CIHR is also developing a five-year investment roadmap that plots the planned evolution of its programming and operating budget.

Expenditure Profile

CIHR expenditures have increased every year since its inception in 2000.

Expenditures increased to \$843.3 million in 2006-07 from \$800.9 million in 2005-06. This \$42.4 million increase was the result of a permanent base budget increase of \$17 million in 2006-07 and increases that year to several key strategic research programs including HIV/AIDS research, pandemic preparedness research, Fabry's disease and the Canada Research Chairs program.

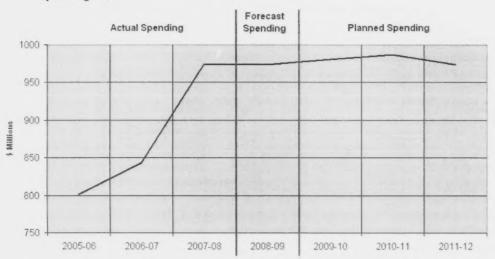
Expenditures increased by approximately \$130.8 million in 2007-08 from \$843.3 million to \$974.1 million due to several new government funding initiatives led by CIHR. During the 2007-08 fiscal year, CIHR incurred \$73.5M in expenditures for the new Centres of Excellence for Commercialization and Research Program (CECR), a key

element of Canada's S&T strategy that will create an environment that encourages innovation partnerships between the academic, private and public sectors. CIHR also received a \$37 million base budget increase in the 2007 Federal Budget, and increases to its HIV/AIDS research program, the Canada Research Chairs Program, the International Polar Year initiative, and the pandemic preparedness research initiative.

Spending in 2008-09 is forecast to be \$973.6 million, slightly less than actual expenditures in 2007-08, which benefitted from \$73.5 million for the launch of the CECR Program. However, in 2008-09 CIHR will receive a \$34 million base budget increase and funding for new programs such as the Vanier Canada Graduate Scholarships, Foreign Study Stipends and Business-Led Networks Centres of Excellence.

Departmental Spending Trend

Spending Trend



Voted and Statutory Items

(in millions)

Vote # or Statutory Item (S)	Truncated Vote or Statutory Wording	2008–09 [√] ∂ <u>Main</u> <u>Estimates</u>	2009–10 Main Estimates
20	Operating expenditures	\$ 42.9	\$ 43.2
25	Grants and contributions	\$ 881.3	\$ 876.7
(S)	Contributions to employee benefit plans	\$ 4.4	\$ 4.4
	TOTAL	\$ 928.6	\$ 924.3

CIHR's 2009-10 Main Estimates show a net decrease in funding of \$4.3 million from 2008-09, virtually all of which in grants. This decrease includes scheduled reductions in the funding for programs such as Fabry's disease and the International Polar Year research program, which are partially offset by increases in funding to programs such as the Vanier Canada Graduate Scholarships Program, the Canada Graduate Scholarships Program, Pandemic Preparedness, Hepatitis C research and the Influenza Research Network.

Please note that forecast spending for 2008-09 is approximately \$45 million higher then the 2008-09 Main Estimates due to additional funding approved for CIHR through the 2008-09 Supplementary Estimates. CIHR expects to obtain approval through the 2008-09 Supplementary Estimates for the on-going \$34 million base budget increase announced in Budget 2008, as well as funding for the new Business-Led Networks of Centres of Excellence Program and a new round of funding for the Centres of Excellence for Commercialization and Research Program (CECR).

Section II — Analysis of Program Activities by Strategic Outcome

Strategic Outcome #1: Advances in Health Knowledge

CIHR supports research that is likely to create knowledge to improve human health. This knowledge could be, for example, about the cause of a disease, a new preventive measure or better treatment procedures. For example a 2004 research study funded by CIHR demonstrated that nine modifiable risk factors were responsible for more than 90% of heart attacks.

CIHR follows rigorous procedures in its funding competitions to choose which research projects to fund. Depending on the program, it chooses them on the basis of their scientific excellence, the importance of the area to be studied, potential impact/relevance and consistency with government priorities.

This strategic outcome is supported by two Program Activities: 1.1 Open Research and 1.2 Strategic Priority Research.

Program Activity 1.1 Open Research

Program Activity 1.1: Open Research

Most of CIHR's programs rely on "open competitions". This means that research scientists are free to apply for funding for projects in any area of health, as they are in the best position to know what lines of inquiry are most likely to yield discoveries. These programs have added much to the world's understanding of health sciences. For example, an international research study led by Dr. Stephen Moses, a CIHR-funded researcher, proved that male circumcision reduces HIV incidence in young men. The study was cited by TIME magazine as the top medical breakthrough of 2007.

Human Resources (FTEs) and Planned Spending (in millions) 2009-10 2010-11 2011-12 **FTEs Planned Spending FTEs Planned Spending FTEs** Planned Spending 113 \$ 455.8 113 \$ 460.2 113 \$ 460.2

Program Activity Expected Results	Performance Indicators	Targets		
Excellent health research conducted responding to best	Success of CIHR research programs including results, awareness and satisfaction levels.	Evaluated programs demonstrate effectiveness and results		
researcher ideas, through effective funding programs.		Maintain or increase the number of applications submitted per \$ of funding available (demonstrating awareness)		
	Proportion of overall expenditures from CIHR grants budget.	45% of overall grants budget		

- Proportion of excellent applications that are funded
- Diversity of research supported (by theme and Institute)
- Total number, \$ value and duration of grants

- 30% of excellent applications are funded
- Maintain diversity of health research support (proportions by theme and Institute)
- Maintain or increase #, \$ and duration of grants

Planning Highlights

The Open Research Program Activity is the CIHR's largest Program Activity representing almost half of its program spending. It includes the Open Operating Grant Program, the Randomized Control Trials Program and the Open Team Grant Program.

In 2009-10, CIHR is scheduled to complete its evaluations of the Open Operating Grant Program, Randomized Controlled Trails Program and Team Grant Program.

Open Operating Grant Program

This program advances knowledge creation by funding the very best research ideas submitted by investigators. All proposals are subject to the highest international standards of peer review to ensure excellence. The program is open in that the proposed research can be in any health related subject of the investigator's choosing. As such, the program funds the full spectrum of health research. For 2009-10, CIHR intends to launch two competitions, each of which is expected to approve approximately 400 new multi-year proposals with total planned expenditures of \$400M.

Randomized Control Trials Program

The RCT program funds research that provides high quality evidence on the efficacy and effectiveness of interventions in health, health services, and population health. The average value and duration of grants under the RCT Program is significantly greater than that of the Open Operating Grant Program. CIHR plans to spend \$30M in 2009-10 on the RCT Program.

Open Team Grants Program

This program aims at funding large teams of researchers in order to generate knowledge and support the training and mentoring of health researchers and trainees. For 2009-10, CIHR expects to spend \$27M on teams that received approvals in earlier competitions.

Benefits to Canadians

Canadians benefit from this program activity in a number of ways. Some research is aimed at immediate solutions such as finding ways of making the delivery of health services more efficient, while more basic research lays the groundwork for developing

cures by, for example, identifying the properties of certain proteins. Another benefit is the strengthening of the scientific and educational enterprise in Canada. Research funding also attracts to Canada top minds from other countries, which in turn attracts funding from other sources and all of this creates high value employment opportunities.

Program Activity 1.2: Strategic Priority Research

Program Activity 1.2: Strategic Priority Research

In "strategic" (also called 'targeted") funding, CIHR aims its funding at specific health opportunities, threats and challenges. For example, in June 2003 CIHR created the Canadian SARS Research Consortium (CSRC) to ensure that Canada's health research community, funding agencies and industry were able to mount a rapid and effective research effort in response to SARS. This Activity also targets gaps in research areas and works to position Canada as a world leader in those fields where Canada may have an advantage.

Human Resources (FTEs) and Planned Spending (in millions)

	2009–10	2010–11		2011–12	
FTEs	Planned Spending	FTEs	Planned Spending	FTEs	Planned Spending
29	\$ 135.8	29	\$ 139.1	28	\$ 131.7

Program Activity Expected Results	Performance Indicators	Targets		
Excellent health research conducted responding to	Success of CIHR research programs including results, awareness, and satisfaction levels, and appropriateness of priorities.	Evaluated programs demonstrate effectiveness and results		
research priorities, through effective funding programs.		Maintain or increase the number of applications submitted per \$ of funding available (demonstrating awareness)		
	 Proportion of overall expenditures from CIHR grants budget. 	9% of overall grants budget		
	Proportion of excellent applications that are funded.	55% of excellent applications are funded		
	Diversity of research supported (by theme and Institute).	Maintain diversity of health research support (proportions by theme and Institute)		
	Total number, \$ value and duration of grants.	Maintain or increase #, \$ and duration of grants		

Planning Highlights

This Program Activity is comprised of the following three main sub-activities, all of which fund research that responds to health challenges that are relevant to government priorities and are of high priority to Canadians.

In 2009-10, CIHR is scheduled to complete its evaluation of the Pandemic Preparedness Research Initiative and commence its evaluation of the Strategic Priority Operating Grant Program and the Large Strategic Initiatives Program.

Strategic Priority Operating Grant Program

The Strategic Priority Operating Grant Program is led by CIHR's 13 Institutes and funds operating grants to support research in priority areas to address strategic health opportunities, threats and challenges to Canadians. These strategic priority research areas are identified by the Institutes in consultation with stakeholders from government, health care organizations, patient groups, and industry. Proposals outlining the field in which research is needed are solicited from researchers and each proposal is reviewed by a peer review committee against precise criteria. In 2009-2010, CIHR's Institutes and partners will be funding strategic operating grants in at least 25 different priority areas.

Large Strategic Initiatives Program

The Large Strategic Initiatives Program supports operating funds for large strategic initiatives, which involve a joint, cross-cutting effort involving two or more of the CIHR Institutes. For 2009-10, CIHR plans to proceed with the next phase of the Canadian Longitudinal Study on Aging (CLSA) and to expand its successful Regenerative Medicine and Nanotechnology Initiative (RMNI). The CLSA will track a cohort of 50,000 individuals 45 years of age or older for the next 20 years or more and will generate a wealth of baseline data that will permit researchers to draw conclusions concerning the interdependencies of demographic, lifestyle and psychosocial data with information on the incidence of disease and other chronic conditions. The RMNI supports research into nanomedicine, stem cells, tissue engineering, rehabilitation sciences, and related social, ethical, environmental, economic, and legal issues and holds the promise of new insights into the regeneration and repair of injured tissues and organs as well as the development of specialized tools and interventions needed to treat diseases and restore function.

Targeted Research Initiatives

CIHR also receives dedicated funding that targets specific government health research priorities. For 2009-10, CIHR will continue to administer funding for projects including HIV/AIDS, Pandemic Preparedness and the National Anti-Drug Strategy.

CIHR's HIV/AIDS Research Initiative focuses on prevention and access to diagnosis, care, treatment and support for those populations most affected by the HIV/AIDS epidemic in Canada - people living with HIV/AIDS, gay men, Aboriginal people, people who use injection drugs, inmates, youth, women, and people from countries where HIV is endemic. CIHR will also continue to support the Canadian HIV Vaccine Initiative (CHVI) which is a collaborative undertaking with the Bill & Melinda Gates Foundation to develop a safe, effective, affordable and globally accessible HIV vaccine.

The Pandemic Preparedness Strategic Research Initiative (PPSRI) funds research that will help to prevent or mitigate a pandemic, develop better ways to control the spread of influenza, and provide better treatment to affected individuals. PPSRI will also develop a strong network of researchers, ensuring Canada has the necessary expertise to respond effectively in the event of a pandemic or assist other countries in crisis.

The National Anti-Drug Strategy Treatment Research Initiative supports research that will help develop and evaluate drug treatment models and approaches.

Benefits to Canadians

CIHR's funding of specific "targeted" areas has a number of benefits. First, it reduces human suffering caused by specific conditions such as HIV/AIDS or Cancer. Second research finds ways to make Canada's health system more responsive and efficient by, for example, developing less costly medical procedures. This Activity also ensures that Canada's research community is strong in as many key areas as possible and is ready to contribute to international research initiatives such as cancer stem cell research.

Strategic Outcome #2: People and Research Capacity

This second desired outcome is a strong and talented health research community in Canada that is among the best and most innovative and productive in the world. CIHR's funding does this in part by helping Canadian institutions to attract and retain the "best and the brightest" to fuel a Canadian research enterprise that can rival that of other industrialized countries.

This strategic outcome is supported by four Program Activities: 2.1 Researchers and Trainees, 2.2: Research Resources and Collaboration, 2.3: National and International Partnerships and 2.4: Ethical, Legal and Social Issues.

Program Activity 2.1: Researchers and Trainees

Program Activity 2.1: Researchers and Trainees

With this activity, CIHR aims to maintain a strong health research community in Canada by helping to train and support younger health researchers and by providing more established researchers with support at critical stages in their careers. In this way CIHR encourages outstanding young researchers who represent the future of health research in Canada to remain in their chosen field during the most difficult early years, and to remain in Canada rather than pursuing the growing number of lucrative opportunities available abroad. Canada faces pressures domestically due to retirements of university professors, and internationally as new players such as China and India join the US and the EU in the global competition for highly skilled graduates.

	2009–10			2040 44		0044 40
	2009-10			2010–11		2011–12
FTEs	Planned S	pending	FTEs	Planned Spending	FTEs	Planned Spending
50	\$ 214.9		50	\$ 218.0	51	\$ 212.5
	m Activity ed Results	Perform	ance Indi	cators	Targe	ets
A supply of highly qualified health researchers and trainees is available to conduct excellent research in areas of strength or need as a result of effective funding programs.		traini awar appro oppo deve	Success of CIHR-funded salary and training programs including results, awareness, satisfaction levels, and appropriateness of funding opportunities developed for capacity development.			valuations of programs emonstrate effectiveness nd results faintain or increase the umber of applications ubmitted per \$ of funding vailable (demonstrating wareness) unding equal to 19% of
		from Prop	oportion of overall expenditures om CIHR grants budget. oportion of excellent applications at are funded.		• 1	verall grants budget 5% of excellent pplications are funded
		Diversity of research supported (by theme and Institute).		• N	daintain diversity of health esearchers support proportions by theme and estitute)	
		Total grant		\$ value and duration of	10	faintain or increase #, \$ and duration of grants

Planning Highlights

This Program Activity helps build and sustain a strong and diverse research workforce in Canada. There is intense competition globally for talent and CIHR's programs are designed to bring and keep the brightest minds in Canada throughout their research careers.

For students, CIHR plans to continue to offer a variety of support programming including awards at the Master's, PhD and post-doctoral levels. Central here is the Canada Graduate Scholarship Program (CGS) as well as the new Vanier Scholarship

Program. In Budget 2009 the government announced that it will provide an additional \$35 million to CIHR, over three years beginning in 2009-2010, to temporarily expand the CGS program.

The Vanier Program is expected to become Canada's flagship scholarship program capable of competing internationally with programs such as the Fulbright Scholarships. CIHR, together with the Natural Sciences and Engineering Research Council and the Social Sciences and Humanities Research Council, plan modifications to the CGS Program in 2009-10 to address areas of improvement identified in a recent evaluation.

Young investigators will continue to be supported through the awarding of salary support awards (both Open and Strategic) that will enable them to devote more time to research. New investigators are in need of support until they can establish themselves to compete successfully under CIHR's open and strategic operating research grant programs.

In collaboration with the Natural Sciences and Engineering Research Council and the Social Sciences and Humanities Research Council, CIHR will also continue to administer the Canada Research Chairs (CRC) program aimed at the very best researchers. The CRC Program provides long term funding to outstanding researchers nominated by Canadian universities and other eligible academic institutions. The program supports a total of 2000 Chairs in all disciplines including the 700 Chairs in the health and life sciences domains managed by CIHR.

Finally, CIHR will continue to offer Strategic Training Initiative in Health Research (STIHR) grants in 2009-10. Unlike the preceding programs which supported the development of researchers and trainees at the individual level, STIHR grants support cohorts of trainees and mentors thus providing young researchers experience in working with a team of more seasoned colleagues from various disciplines.

In Budget 2008, the Government announced the Canada Excellence Research Chairs (CERC) Program to strengthen the ability of Canadian universities to attract and retain the world's top science leaders. Twenty prestigious chairs will be awarded through a competitive process in four priority areas including health. Each Chair will receive up to \$10 million over seven years to assemble a world-class research team and conduct research in areas of strategic importance to Canada. CIHR will administer the funding for Chairs awarded in the domain of health and life sciences.

In 2009-10, CIHR is scheduled to continue its evaluation of the Canada Research Chairs Program and start an evaluation of its Salary Support Programs. In addition, an audit of the non-financial administration of the Salary Support Programs is also planned during this period.

Benefits to Canadians

Canadians benefit from this activity by having a strong research community able to deal with current health challenges and by the economic benefits that innovation creates.

Program Activity 2.2: Research Resources and Collaboration

Program Activity 2.2: Research Resources and Collaboration

This activity enhances the health research community's ability to conduct research by supporting research-enabling activities and resources. This includes engaging in collaborative activities such as networking between researchers as well as providing state-of-the-art tools to conduct research such as new equipment, databases and other specialized resources.

Human Resources (FTEs) and Planned Spending (in millions)

2009–10		2010–11		2011–12	
FTEs	Planned Spending	FTEs	Planned Spending	FTEs	Planned Spending
12	\$ 49.5	12	\$ 49.5	12	\$ 49.5

Program Activity Expected Results	Performance Indicators	Targets		
High quality research resources are available for	Success of CIHR-funded research resources and collaboration programs including results, awareness,	Evaluated programs demonstrate effectiveness and results		
excellent health research as a result of effective funding programs.	satisfaction levels and appropriateness of funding opportunities for research resources.	Maintain or increase the number of applications submitted per \$ of funding available (demonstrating		
Appropriate resources available that enable adequate research resources for	Types of support by area of health research (by theme and Institute).	 awareness) Maintain diversity of health research support (proportions by theme and Institute) 		
health research.	 Proportion of excellent applications received by CIHR that are funded. 	90% of excellent applications are funded		
	 Proportion of overall expenditures from CIHR grants budget. 	5% of overall grants budget		

Planning Highlights

This Program Activity is comprised of several programs and partnerships all designed to ensure that Canadian health researchers have access to the networking and collaborative opportunities, equipment, databases, tools and other specialized resources needed to conduct world-class research.

For example, CIHR will, conditional upon a review of the facility with its partners, continue to provide operational support to the Canadian Light Source (CLS), a national facility in Saskatoon that uses synchrotron radiation to conduct high resolution spectroscopic studies on both chemical and biological materials. The CLS synchrotron has numerous potential applications in biological and medical research, including the determination of molecular structure and the three-dimensional imaging and biological characterization of cells, tissues and whole animals.

In addition, CIHR, along with other partner organizations including the governments of the UK and Sweden, will continue to support the Structural Genomics Consortium allowing them to provide researchers from Canada and around the world critical structural information for key molecules important in biological and medical research.

Finally, CIHR will continue to fund Strategic Team Grants that support teams of researchers to conduct collaborative research. Applications will have to propose research in specific research areas identified as priorities by CIHR and its partners.

Benefits to Canadians

This Program Activity helps researchers acquire up-to-date equipment, databases and other research equipment and facilities and thus increases the scope of the research they can carry out. In addition, it supports collaborative research by supporting networking and other activities. The benefits from the resulting research are the same as with other research funding: innovation in health science and services, high-value economic activity and employment, and international recognition for Canadian institutions and researchers.

Program Activity 2.3: National and International Partnerships

Program Activity 2.3: National and International Partnerships

This Activity is about collaborating with other players in the health field to advance common goals and maximize results. CIHR works closely with health policy-makers at provincial and federal levels of government, the private sector, and voluntary health organizations from Canada and abroad to develop and advance research priorities and to co-ordinate research endeavours so the global health research funds are spent in a way that avoids duplication and creates synergies. For example, CIHR contributes to the operating costs of the Canadian Council on Animal Care, a national organization responsible for setting and maintaining standards for the care and use of animals used in research, teaching and testing throughout Canada. CCAC awards the Certificate of Good Animal Practice to institutions that it determines are in compliance with its standards. CIHR makes participation in the CCAC program mandatory for all those who wish to receive their research funding and inform institutions that they will withdraw funds from institutions that CCAC states are not in compliance with its standards.

	Human Resou	irces (FT	Es) and Planned Sper	nding (in	millions)
2009–10		2010–11		2011–12	
FTEs	Planned Spending	FTEs	Planned Spending	FTEs	Planned Spending
6	\$ 24.7	6	\$ 24.7	6	\$ 24.7

Program Activity Expected Results	Performance Indicators	Targets		
National and international health research agendas are formulated and	Success of CIHR-funded partnership research programs including results, awareness and satisfaction levels.	Evaluated programs demonstrate effectiveness and results Maintain or increase the		
implemented, and		number of applications submitted per \$ of funding		

increased
relevance and
quantity of
research is
achieved as a
result of strong
alliances and
partnerships.

- Proportion of overall expenditures from CIHR grants budget.
- Proportion of excellent applications that are funded.
- Diversity of research supported (by theme and Institute).
- Total number, \$ value and duration of grants.

- available (demonstrating awareness)
- 2% of overall grants budget
- 65% of excellent applications are funded
- Maintain diversity of health research support (proportions by theme and Institute)
- Maintain or increase #, \$ and duration of grants

Planning Highlights

A Partnership Strategy for CIHR is currently being drafted to clearly outline what we are trying to achieve through the many domestic partnerships we develop with all sectors, how we will achieve effective partnerships, and how we will evaluate successes in this area.

The CIHR Framework for International Relations and Cooperation is being strengthened to ensure that Canadian researchers have the opportunity to contribute to world-class successes and to accelerate the pace of discovery and commercialization in Canada and abroad, as outline in the federal government's Science and Technology (S & T) Strategy.

CIHR plans to launch or maintain several partnered funding initiatives involving the provinces, small health charities and other non-profit organizations with a focus on health research. The focus of some of these initiatives is to build capacity in underdeveloped areas. These programs continue to evolve to reflect the changing research landscape and to meet organizational and partner needs. Partnerships bring together the unique capabilities, interests, and resources of various stakeholders to deliver better outcomes of health research.

Benefits to Canadians

By working closely with other organizations, CIHR is able to leverage the contribution of the government of Canada into additional research to improve health for Canadians. As well, by working with other organizations that have an interest in research, CIHR is able to help them meet worthwhile objectives that CIHR by itself could not do. Since its inception in 2000, CIHR has leveraged some \$600 million of partner funding.

Program Activity 2.4: Ethical, Legal and Social Issues

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Program Activity 2.4: Ethical, Legal and Social Issues

It is not possible to achieve excellence in research without applying ethical principles and values. Research must be open, transparent, safe, original, and its methodology and results must be reported accurately and completely. Otherwise, the research results will be suspect or even harmful, and Canada's reputation may suffer. For example, research ethics require that a person must be fully apprised of all potential risks before they consent to participate in a research trial. The purpose of this Program Activity is to help and encourage health researchers to apply these and other ethical principles to their work. CIHR does this by engaging institutions and researchers in discussions of ethical issues and by funding research on health-related ethical, legal and social issues.

	Human Resources (FTEs) and Planned Spending (in millions)					
	2009–10		2010–11		2011–12	
FTEs	Planned Spending	FTEs	Planned Spending	FTEs	Planned Spending	

\$2.8

\$ 2.8

Program Activity Expected Results	Performance Indicators	Targets		
Health research conducted more ethically as a	Success of CIHR-funded ELSI programs including results, awareness and satisfaction levels.	Evaluated programs demonstrate effectiveness and results		
result of effective funding programs.		Maintain or increase the number of applications submitted per \$ of funding available (demonstrating awareness)		
	 Proportion of overall expenditures for research targeted to strategic areas pertaining to ethical, legal and social issues in the context of health and health research. 	0.2% of overall grants budget		
	Proportion of excellent applications that are funded.	70% of excellent applications are funded		
	Total number, \$ value and duration of grants.	Maintain or increase #, \$ and duration of grants		

Planning Highlights

8

\$2.8

In 2009-2010 CIHR will launch several competitions to fund grants to encourage researchers to focus on certain areas of ethics including the implementation of CIHR's Guidelines for Health Research Involving Aboriginal People, which it finalized last year.

Benefits to Canadians

The main benefit from this activity is a safe and ethical environment for the carrying out of research. Depending on the situation, this may mean, for example, that the privacy of research participants is respected or that animals used in research are treated humanely.

Strategic Outcome #3: Knowledge Translation and Commercialization

This outcome is about turning the information that comes from research into practices, programs and policies that offer more effective health services and products, a strengthened health care system, and facilitating their application so as to improve the health of Canadians. This is done by funding knowledge translation research, knowledge syntheses and dissemination of their findings, exchange and application activities and building knowledge translation networks. It also means turning research breakthroughs into practical commercial products.

Program Activity 3.1: Knowledge Translation of Health Research

Program Activity 3.1: Knowledge Translation of Health Research

CIHR funds research and other work to convert research results into practical applications or into information that public institutions and others can use. For example, in 2006 CIHR and provincial, territorial and federal government partners supported several teams of researchers to conduct syntheses of evidence related to how long Canadians should wait for procedures such as hip and knee replacements and cataract surgery. The research reports provided information that the Canadian governments then used to help establish Canada's first ever wait time benchmarks in a number of treatment areas.

Human Resources (FTEs) and Planned Spending (in millions)

2009–10		2010–11		2011–12	
FTEs	Planned Spending	FTEs	Planned Spending	FTEs	Planned Spending
10	\$ 44.1	10	\$ 44.1	10	\$ 44.1

Program Activity Expected Results	Performance Indicators	Targets		
Health research is translated more effectively as	Success of CIHR research programs including results, awareness and satisfaction levels.	Evaluated programs demonstrate effectiveness and results		
result of funding programs.		Maintain or increase the number of applications submitted per \$ of funding available (demonstrating awareness)		
	Number, scope and diversity of knowledge translation activities supported by CIHR (and its partners where relevant) or resulting from	Maintain or increase the number, scope and diversity of KT activities		

CIHR activities

- Diversity of research supported (by theme and Institute).
- Number and types of stakeholders as well as types of knowledge translation activities during the research process.
- Proportion of overall expenditures from CIHR grants budget.
- Proportion of excellent applications that are funded.
- Total number, \$ value and duration of grants.
- Number of researchers and trainees working in KT areas.

- Maintain or increase diversity of health research support for KT (by program, theme, Institute)
- Maintain or increase # and types of stakeholders involved in KT
- 4% of overall grants budget
- 70% of excellent applications are funded
- Maintain or increase #, \$ and duration of grants
- Maintain or increase # of researchers and trainees working in KT areas

Planning Highlights

To realize the objectives of this Program Activity, CIHR intends to launch grant competitions for research that support the science of KT as well as the synthesis, dissemination, exchange and application of health research using a variety of funding tools.

For example, the Knowledge to Action initiative will support teams of researchers and knowledge users interested in applying research evidence to improve health and the health system while the Partnerships for Health System Improvement (PHSI) initiative will fund teams of researchers and policy makers with government or decision makers within the health care system to undertake research and knowledge translation projects. CIHR also plans to launch knowledge syntheses funding opportunities to support teams of researchers to review and synthesize the global evidence about the effectiveness of clinical, health services and population health practices and programs.

In addition, CIHR plans to continue to support the Canadian Cochrane Network and Centre, one of 12 Centres worldwide that make up the Cochrane Collaboration. The Cochrane Collaboration is an international not-for-profit organization that conducts and disseminates systematic reviews of health care interventions. These systematic reviews of clinical trials and other rigorous studies of healthcare interventions are considered to be a reliable source of information to help people make well informed decisions about health care.

Benefits to Canadians

Knowledge Translation helps everyone as it deals with how we can take the results of research and turn them into products, practices and polices. Knowledge translation facilitates the application of research findings by heath care professionals, heath care

managers, federal, provincial and municipal policy makers, patients and the public, and industry to improve health outcomes and the health system.

Program Activity 3.2: Commercialization of Health Research

Program Activity 3.2: Commercialization of Health Research

Commercialization means converting the findings of basic and applied research into products that have value in the marketplace. This is primarily the job of the private sector but CIHR can help by supporting early steps and high risk activities. It can also provide targeted grants so that researchers can better demonstrate the commercial potential of their research. CIHR's Commercialization and Innovation strategy focuses on the early stages of commercialization, where there is often a gap between a promising initial concept and its exploitation for health and economic advantage.

	Human Resou	irces (FT	Es) and Planned Sper	nding (in	millions)
2009–10		2010–11		2011–12	
FTEs	Planned Spending	FTEs	Planned Spending	FTEs	Planned Spending
6	\$ 32.0	6	\$ 27.6	6	\$ 27.6

Program Activity Expected Results	Performance Indicators	Targets		
Health research is commercialized more effectively as a result of funding programs.	Success of CIHR-funded commercialization programs including results, awareness and satisfaction levels.	Evaluated programs demonstrate effectiveness and results Maintain or increase the		
Appropriate resources available that		number of applications per \$ of funding available (demonstrating awareness)		
enable commercialization of health research.	 Proportion of excellent applications received by CIHR that are funded. 	55% of excellent applications are funded		
	 Proportion of overall expenditures from CIHR grants budget. 	3% of overall grants budget		

Planning Highlights

Under this Program Activity CIHR plans to launch several grant competitions to support and facilitate the commercialization of health research using a variety of funding tools including the Proof of Principle Program that promotes and supports the commercial transfer of knowledge and technology resulting from academic health research, and the CIHR/ Small Medium Enterprises (SME) program that encourages collaboration between academia and industry to support health research. CIHR will also launch and manage the Science to Business annual competition to support health research scientists interested in obtaining an MBA.

CIHR will also continue to promote and support commercialization of health research to improve health and the health care system through its contributions to initiatives such as

the Centres of Excellence for Commercialization and Research (CECR) Program and the Business-Led Networks of Centres of Excellence (BL-NCE) Program. These programs aim to help achieve the objectives of the Federal Government's S & T Strategy, *Mobilizing Science & Technology to Canada's Advantage*. The BL-NCE Program funds large scale collaborative research networks to support private sector innovation to deliver economic, health, social and environmental benefits to Canadians and the CECR program aims to create world-class centres to advance research and facilitate commercialization of technologies, products and services.

Benefits to Canadians

Turning knowledge into new commercial products and services generates wealth for Canadians and supports the quality of life and health outcomes we all want. It can also create sustainable employment for highly skilled workers.

Program Activity 4.1 Internal Services

CIHR plans to spend approximately \$20.7 million in 2009-10 on Internal Services, which are service expenditures in support of CIHR's operations and cannot be directly allocated to any of CIHR's three strategic outcomes.

Program Activity: Internal Services

Internal Services consist of support services that are provided to program delivery in the areas of Finance, Procurement, Planning, Human Resources, Informatics, Security, Information Management, Internal Audit, Evaluation and Analysis, Marketing and Communications, and Corporate Governance.

Human Resources (FTEs) and Planned Spending (in millions)

2009–10		2010–11		2011–12	
FTEs	Planned Spending	FTEs	Planned Spending	FTEs	Planned Spending
176	\$ 20.7	176	\$ 20.7	176	\$ 20.6

Program Activity Summary and Planning Highlights

Internal Services are groups of related activities and resources to support the needs of programs and other corporate obligations of CIHR. These services include such functional areas as Finance, Procurement, Planning, Human Resources, Informatics, Security, Information Management, Internal Audit, Evaluation and Analysis, Marketing and Communications, and Corporate Governance. Internal Services include only those activities and resources that apply across the organization and not those provided to a program.

The planning highlights include the four management priorities identified under the Contribution of Priorities to Strategic Outcomes section described above. Specifically, CIHR will strive to further improve its granting delivery processes; strengthen its ability to demonstrate the positive impacts of health research for Canadians; ensure that managers have the information they need to make the right decisions; and, foster a motivated, committed and productive workforce.

Section III: Supplementary Information

List of Supplementary Information

- Details on Transfer Payment Programs (TPP)
- Green Procurement
- Internal Audits
- Evaluations
- Sources of Re-spendable and Non-Re-spendable Revenue
- Departmental Plan for Evaluations

This information may be found on the Treasury Board Secretariat website: http://www.tbs-sct.gc.ca/estsd-bddc/index-eng.asp.

Other Items of Interest

- Investing in Canada's Future: CIHR's Blueprint for Health Research and Innovation 2003-2004 to 2007-2008, CIHR's Strategic Plan: http://www.cihr-irsc.gc.ca/e/20266.html
- Various CIHR Annual Reports: http://www.cihr-irsc.gc.ca/e/153.html
- 3. Knowledge Translation and Commercialization: http://www.cihr-irsc.gc.ca/e/29529.html
- 4. CIHR Institutes More information, including Institute Strategic Plans and Annual Reports, is available through CIHR's web site: http://www.cihr-irsc.gc.ca/e/9466.html

Internet Addresses

Canadian Institutes of Health Research (CIHR) Home Page	http://www.cihr-irsc.gc.ca/e/193.html	
Aboriginal Peoples' Health	http://www.cihr-irsc.gc.ca/e/8668.html	
Aging	http://www.cihr-irsc.gc.ca/e/8671.html	
Cancer Research	http://www.cihr-irsc.gc.ca/e/12506.html	
Circulatory and Respiratory Health	http://www.cihr-irsc.gc.ca/e/8663.html	
Gender and Health	http://www.cihr-irsc.gc.ca/e/8673.html	
Genetics	http://www.cihr-irsc.gc.ca/e/13147.html	
Health Services and Policy Research	http://www.cihr-irsc.gc.ca/e/13733.html	
Human Development, Child and Youth Health	http://www.cihr-irsc.gc.ca/e/8688.html	
Infection & Immunity	http://www.cihr-irsc.gc.ca/e/13533.html	
Musculoskeletal Health and Arthritis	http://www.cihr-irsc.gc.ca/e/13217.html	
Neurosciences, Mental Health and Addiction	http://www.cihr-irsc.gc.ca/e/8602.html	

Nutrition, Metabolism and Diabetes	http://www.cihr-irsc.gc.ca/e/13521.html
Population and Public Health	http://www.cihr-irsc.gc.ca/e/13777.html